

DEEPWATER DRILLING: RECOMMENDATIONS FOR A SAFER FUTURE

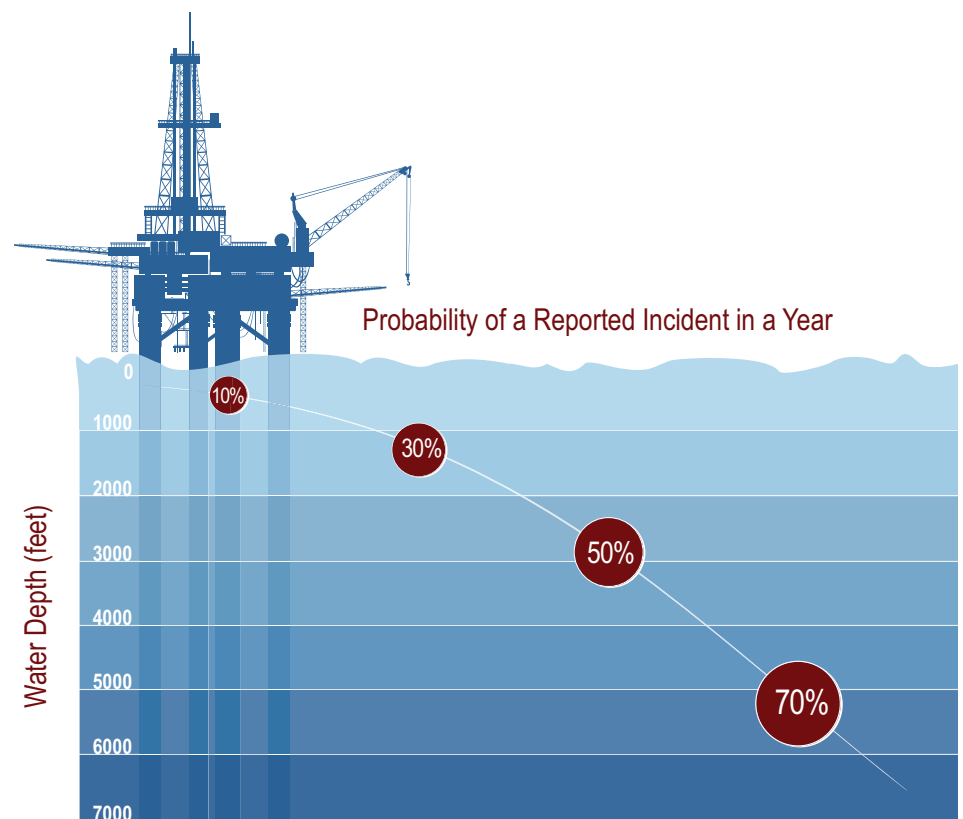


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ENERGY ECONOMICS
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In August 2010, the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling asked RFF's Center for Energy Economics and Policy (CEEP) to conduct a series of studies that would help inform the commission's investigations and recommendations. RFF was not asked to assess the technical causes of the Gulf disaster. Instead, the task was to help identify potential improvements in industry and government practice to reduce the risk of future catastrophic spills.

The United States Was Not Prepared for a Spill This Large

Prior to the *Deepwater Horizon* incident, risk assessments were based on worst-case scenarios from previous spills and did not sufficiently account for water depths or spill volume. A risk assessment for the Macondo well (the site of the *Deepwater Horizon* spill) estimated the most likely size of a large spill at 4,600 barrels, and no more than 26,000 barrels spilled over the entire 40-year production life of the well. As a result, the environmental assessment indicated that a spill from that well would result in “no significant impact.” In fact, the *Deepwater Horizon* spill released more than 4 million barrels of oil in the Gulf of Mexico and is likely to be the single most costly oil spill to date in American waters.



Even taking into account levels of production, facility complexity, the company in charge, distance to shore, and other factors, the probability of a company-reported incident (such as fire damage, injuries, or pollution) increases significantly with water depth. Ultra-deepwater drilling is simply more complex and riskier. For example, moving from a water depth of 500 feet to 5,000 feet increases the annual probability of an incident from roughly 10 to 70 percent. This finding is true even when looking at only the top 10 oil producers in the Gulf.

Raising the Game to Reduce Risk

Working with the commission and other key stakeholders, RFF researchers formulated a series of findings and recommendations to improve the safety of future oil drilling operations in the Gulf of Mexico. These recommendations take a comprehensive view of industry and government operational incentives and culture, emergency preparedness and response, and risk assessment and management. Highlights of key points are below. Moving forward, RFF will expand this body of work to provide additional context for policymakers concerned about the future of offshore oil drilling in the United States.

Summary of Key Recommendations

Provide stronger incentives for industry to invest in safety, risk reduction, and spill response and containment technologies. Specifically, (1) raise liability caps to reflect the risk posed by deepwater drilling; (2) establish commensurate financial responsibility requirements; (3) require third-party insurance to increase external monitoring; and (4) develop risk-based premiums if insurance pools are used.

Reform regulatory structures to adapt to deepwater drilling risks. Specifically, (1) utilize state-of-the-art risk-assessment methodologies such as the detailed precursor analysis models developed in the nuclear industry. Quantitative thresholds should be adopted to specify both unacceptable and tolerable risk levels. Also, (2) increase the use of performance-based risk management and cost-benefit analysis. The “safety case” approach used in Norway and the United Kingdom for offshore oil and gas development should be considered. Finally, (3) increase government’s capacity to perform adequate analysis and oversight. Agency staffers need adequate training and expertise, and the government should analyze inspection and enforcement data to better target activities to prevent spills.

Strengthen the oversight capacity of institutions involved in offshore drilling. An important method to ensure ongoing oversight is to establish third-party reviews of safety and risk-management activities. Among the many opportunities for such oversight are: (1) an independent safety review board to investigate offshore accidents; (2) regular third-party audits of the Safety Environmental Management System (SEMS); (3) required independent technical review of containment and response plans before being approved as part of the permitting process; and (4) more public oversight of industry research and development in spill prevention, containment, and response technologies.

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